UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/552,442	10/07/2005	Norifumi Kikkawa	09812.0116	7253

22852 7590 08/18/2009

FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER LLP
901 NEW YORK AVENUE, NW
WASHINGTON, DC 20001-4413

EXAMINER	
CHAO, MICHAEL W	

ART UNIT	PAPER NUMBER
2442	

MAIL DATE	DELIVERY MODE
08/18/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/552,442	KIKKAWA ET AL.	
	Examiner	Art Unit	
	Michael Chao	2442	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 April 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-32* is/are rejected.

7)☒ Claim(s) *1-32* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claims 1-32 are objected to because of the following informalities:

The claims generally and repeatedly contain the preposition “as to”. As to is synonymous with "in reference to", "in regards to" and "according to". Its use in the claims appears grammatically incorrect.

Claim 1 contains “unit for executing providing processing”.

Claim 3 contains “and and”

Claim 6 contains “is set is configured”

Appropriate correction is required.

While not explicitly listed, other grammatical errors exist which Applicant may desire to correct.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4, 5, 7, 9, 13, are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4: “wherein said tuner control instance is configured so as to set multiple content to be received by the tuner, corresponding to multiple channels”. Claim 1 requires multiple ‘tuner control instance’ s, where presumably each instance would

control a separate tuner or a single tuner for a particular command. However, the recitation in claim 4 recites a single tuner instance setting multiple content and multiple channels. This therefore brings into question what would cause a second tuner instance to be instantiated, if a single instance can handle both multiple content and multiple channels.

Claims 5, 15, recite "a channel list URL (Uniform Resource Locator) which is set as identifying information of a channel list including at least multiple channels within the receiving channels of said tuner". The structure and function and use of said URL ambiguous.

Claim 7: "the generating object" lacks antecedent basis.

Claim 9: "said recording unit control instance" lacks antecedent basis.

Claim 13: 'Tuner control instance ID' and 'storage unit control instance ID' lack antecedent basis. 'control instance ID' is ambiguous. "wherein said information processing device sends, to said server, . . . within the protocol information to be included in the content information received form said server" makes it ambiguous what elements are created on which device, and which direction of communication flow id described.

Claim 14: "the recording source content identifier" lacks antecedent basis. Also, "and also executes processing for notifying said recording source content identifier as to said storage unit control instance." is unclear as it is not known what is meant by notifying a content identifier. An identifier, or more specifically a content identifier, is a name, and would impart no functionality upon which a notification could be received.

Claim 18: 'the tuner container' lacks antecedent basis.

Claims 28, 32: "a protocol information sending step for transmitting to said server . . . information to be received from said server" makes it ambiguous what elements are created on which device, and which direction of communication flow id described.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 31-32 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. A computer program is none of a process, machine, manufacture, nor composition of matter and as such is non statutory.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-9, 16-24, are rejected under 35 U.S.C. 103(a) as being unpatentable over Rakib (US 6,970,127), in view of Tso et al. (US 6,421,733), in view of Steidley "Object-Oriented Software: Theory, Practice, and Implementation".

With respect to claims 1, 16, Rakib teaches: A content-providing server for executing content transmission to a client and content recording processing, said server comprising:

A tuner for executing data reception processing; ("Gateway 10 also has an internal router and tuner and demodulation and detector circuitry" Rakib column 7 line 15)

A data transmission/reception unit for executing communication processing between server and client of received content from said tuner and of control information; ("Gateway 10 has an RF or infrared transceiver 32 therein to send and receive data to/from remote 30" Rakib column 7 line 13)

A content storage unit for storing content; ("incorporates a hard disk to record digital video data" Rakib column 6 line 20)

A content management unit for executing providing processing as to a client of said content information; and ("Operating system 116 cooperates with the remote control 100 to receive commands to implement TIVO-like functions" Rakib column 12 line 1)

A content delivery control unit for executing processing as to received content via said tuner; ("Gateway 10 also has an internal router and tuner and demodulation and detector circuitry" Rakib column 7 line 15)

Said content delivery control unit comprising a tuner control instance for executing delivery processing control as to the client of the received content of said tuner, and wherein a recording source content identifier is set corresponding to the

tuner-received content, and ("Receiver 106 has the ability to tune and demultiplex two separate logical channels simultaneously in some embodiments. Typically this will be done by filtering out all MPEG packets having two separate program descriptors (PID)" Rakib column 14 line 30)

A storage unit control instance for executing storage processing control as to said content storage unit of the received content by said tuner, and wherein a recording target content identifier is set; ("record a program identified by a second PID on hard disk 114" Rakib column 14 line 40)

Wherein each of said tuner control instance and said storage unit control instance independently executes control corresponding to the set content identifiers. ("The packets for the two different PIDs can be sent to different places." Rakib column 14 line 35)

Rakib does not explicitly disclose: A metadata storage unit wherein attribute information corresponding to received content is stored as content information, nor software instances handling device operations.

Tso discloses a metadata storage device for media storage: "server-side cache interface 28 and server-side cache memory 30 enable maintenance of multiple representations of a given cached object, with descriptive information about each representation" Tso column 4 line 63. A Person of ordinary skill in the art at the time of invention would have modified Rakib with the cache interface of Tso by including Tso's caching interface in the disk storage means of Rakib. It would have been obvious at the time the invention was made to a person of ordinary skill in the art to modify Rakib with

a cache interface in order to allow storage and retrieval of programs in a TIVO type device.

Furthermore Rakib does not disclose the structure of its software used to perform 'Tivo-like' functions (column 12 line 1), or more specifically software instances to perform storage and program tuning.

Steidley discloses software instances in an overview of object oriented programming: "a class is a generic type of thing, while an object is an instance or specific occurrence of a thing." Steidley Practice – Combining Data and Behavior. A person of ordinary skill in the art at the time of invention would have modified Rakib in view of Tso with Steidley by utilizing object oriented programming to create the software for the 'Tivo-like' functions. More specifically a person would have modified Rakib in view of Tso with Object Oriented Programming by creating objects to abstract and encapsulate the tuner and the storage software of Rakib. It would have been obvious at the time the invention was made to a person of ordinary skill in the art to modify Rakib in view of Tso with object oriented programming in order to increase reusability and reduce software errors.

Regarding claims 2, 17, Rakib in view of Tso teaches: wherein a recording source content identifier is set in said storage unit control instance; ("Receiver 106 has the ability to tune and demultiplex two separate logical channels simultaneously in some embodiments. Typically this will be done by filtering out all MPEG packets having two separate program descriptors (PID)" Rakib column 14 line 30)

And wherein said storage unit control instance is configured so as to execute specific processing of the recording content based on said recording source content identifier. ("record a program identified by a second PID on hard disk 114" Rakib column 14 line 40)

Regarding claims 3, 18, Rakib in view of Tso in view of Steidley teaches: wherein said content management unit is configured so as to execute content information management based on a content management directory; ("the switch 112 will have routing capabilities based upon routing tables built therein by the operating system . . . The router will then look at the PIDs in all incoming packets from receiver 106 and route them according to the data in its routing tables" Rakib column 14 lines 57-62)

And is configured so as to set said recording source content identifier as the metadata of the tuner container ("The packets for the two different PIDs can be sent to different places." Rakib column 14 line 35) as an management object of said content management directory, and to set said recording target content identifier as the metadata of a content storage object ("record a program identified by a second PID on hard disk 114" Rakib column 14 line 40) as an management object of said content management directory, and also to execute the providing processing of said metadata according to a request from said client; and ("Operating system 116 cooperates with the remote control 100 to receive commands to implement TIVO-like functions" Rakib column 12 line 1)

And wherein each of said tuner control instance and said storage unit control instance executing setting processing of said recording source content identifier or

recording target content identifier, according to a request from said client. ("Operating system 116 cooperates with the remote control 100 to receive commands to implement TIVO-like functions" Rakib column 12 line 1)

While the combination of claim 1 does not explicitly state that the PIDs are object data of the tuner object and content storage object. A person of ordinary skill in the art at the time of invention would have included the PIDs as object data since both the tuner and storage objects would need the PIDs in order to perform their required processing. Furthermore, it would have been obvious at the time the invention was made to a person of ordinary skill in the art to include the PIDs in the aforementioned objects in order to allow the object to perform operations requiring the PID.

Regarding claims 4, 19, Rakib in view of Tso in view of Steidley teaches: wherein said recording source content identifier is a channel list identifier as identifying information of a channel list including at least multiple channels within the receiving channels of said tuner; ("the switch 112 will have routing capabilities based upon routing tables built therein by the operating system . . . The router will then look at the PIDs in all incoming packets from receiver 106 and route them according to the data in its routing tables" Rakib column 14 lines 57-62)

And wherein said tuner control instance is configured so as to set multiple content to be received by the tuner, ("The packets for the two different PIDs can be sent to different places." Rakib column 14 line 35) corresponding to multiple channels described in said channel list, as one unit of the control content, and executes control of the delivery content ("record a program identified by a second PID on hard disk 114"

Rakib column 14 line 40) corresponding to the multiple channels described in said channel list, based on control request corresponding to the channel list identifier to be received from a client. ("Operating system 116 cooperates with the remote control 100 to receive commands to implement TIVO-like functions" Rakib column 12 line 1)

Regarding claims 5, 20, Rakib in view of Tso in view of Steidley, as combined in claim 1, does not teach: wherein said recording source content identifier is a channel list URL (Uniform Resource Locator) which is set as identifying information of a channel list including at least multiple channels within the receiving channels of said tuner;

And wherein said recording source content identifier is a content storage object URL which is set as an identifier of a content storage object corresponding to a content storage region which is set in said content storage unit.

Tso, however, includes additional teachings which include the structure of the above elements: wherein said recording source content identifier is a channel list URL (Uniform Resource Locator) which is set as identifying information of a channel list including at least multiple channels within the receiving channels of said tuner; ("GetObject(URL . . . PutObject(URL . . . " Tso column 5 lines 50-60)

And wherein said recording source content identifier is a content storage object URL which is set as an identifier of a content storage object corresponding to a content storage region which is set in said content storage unit. ("GetObject(URL . . . PutObject(URL . . . " Tso column 5 lines 50-60). A person of ordinary skill in the art would have further modified Rakib in view of Tso in view of Steidley with Tso's ability to handle media defined by URLs. It would have been obvious at the time the invention

was made to a person of ordinary skill in the art to further modify Rakib in view of Tso in view of Steidley in order to accommodate web media content.

Regarding claims 6, 21, Rakib in view of Tso in view of Steidley teaches: wherein said content management unit is configured so as to execute content information management based on the content management directory, ("the switch 112 will have routing capabilities based upon routing tables built therein by the operating system . . . The router will then look at the PIDs in all incoming packets from receiver 106 and route them according to the data in its routing tables" Rakib column 14 lines 57-62)

And is configured so as to be capable of retaining at least one of the setting information of content recording ending time information and recording quality, as the metadata of the content storage object as the management object of said content management directory; and ("GetScaledObject() . . . it adds support for requesting a particular version of that object" Tso column 6 line 10)

The storage unit control instance wherein said recording target content identifier is set is configured so as to execute content recording processing according to said setting information. ("Another TIVO function is providing the ability to record a program at any one of a plurality of selected quality or resolution levels." Rakib column 12 line 55)

Regarding claim 7, 22, Rakib in view of Tso in view of Steidley teaches: wherein said content management unit is configured so a to execute processing for setting a content storage object as the metadata ("record a program identified by a second PID on hard disk 114" Rakib column 14 line 40) as to the generating object, under the

condition that information showing that a generating request for the content storage object for storing live content is included in the generating request of the content storage object from said client. ("Another TIVO function is pausing live TV for a bathroom break, a phone call, etc." Rakib column 13 line 45). Rakib in view of Tso in view of Steidley as combined in claim 1 does not teach, URL. A person of ordinary skill in the art would have further modified Rakib in view of Tso in view of Steidley with Tso's ability to handle media defined by URLs. It would have been obvious at the time the invention was made to a person of ordinary skill in the art to further modify Rakib in view of Tso in view of Steidley in order to accommodate web media content.

Regarding claim 8, 23, Rakib in view of Tso in view of Steidley teaches: wherein said content-providing server is configured so as to execute setting processing for said storage unit control instance, ("record a program identified by a second PID on hard disk 114" Rakib column 14 line 40) under the condition that information showing that a generating request for the content storage object for storing live content ("Another TIVO function is pausing live TV for a bathroom break, a phone call, etc." Rakib column 13 line 45) is included in the generating request of the content storage object from said client. ("Operating system 116 cooperates with the remote control 100 to receive commands to implement TIVO-like functions" Rakib column 12 line 1)

Regarding claim 9, 24, Rakib in view of Tso in view of Steidley, as combined in claim 1, does not teach: wherein the setting processing of said recording unit control instance includes setting process of the content storage object URL as a recording target content identifier. Tso, however, teaches said features: "GetObject(URL . . .

PutObject(URL . . . " (Tso column 5 lines 50-60). A person of ordinary skill in the art would have further modified Rakib in view of Tso in view of Steidley with Tso's ability to handle media defined by URLs. It would have been obvious at the time the invention was made to a person of ordinary skill in the art to further modify Rakib in view of Tso in view of Steidley in order to accommodate web media content.

Claims 10, 11, 12, 25, 26, 27, are rejected under 35 U.S.C. 103(a) as being unpatentable over Rakib in view of Tso in view of Steidley, in view of Sharma et al. (US 7,159,224)

Regarding claim 10, 25, Rakib in view of Tso in view of Steidley teaches: wherein protocol information corresponding to the content is included in said content information; ("the compressed video data is then decompressed and either displayed on the display or converted to a proper signal or digital format for display" Rakib column 10 lines 45)

And wherein a function ID is set in the protocol information, which is set corresponding to said recording target content, as content storage unit identifying information; ("record a program identified by a second PID on hard disk 114" Rakib column 14 line 40)

and wherein said content delivery control unit is configured so as to execute setting processing as a control instance that executes control for control objects wherein each of said tuner control instance and said storage control instance is determined based on said function ID. ("Receiver 106 has the ability to tune and demultiplex two separate logical channels simultaneously in some embodiments. Typically this will be

done by filtering out all MPEG packets having two separate program descriptors (PID)" Rakib column 14 line 30)

Rakib in view of Tso in view of Steidley does not explicitly teach:

And wherein a function ID is set in the protocol information, which is set corresponding to said recording source content as tuner identifying information;

Nor does the combination teach a function ID.

Sharma discloses:

And wherein a function ID is set in the protocol information, which is set corresponding to said recording source content as tuner identifying information; ("The SOAPSerializationState for an object may store a unique ID assigned to that object and a reference to the serializer for the object" Sharma column 31 line 33)

And a function ID. ("When client 510 prepares to send data to server 510, such as when a remote call is made to a service endpoint 555 maintained by server 530 . . . may serialize a Java object" Sharma column 30 lines 5-10)

A person of ordinary skill in the art at the time of invention would have modified Rakib in view of Tso in view of Steidley with Sharma but using Java objects on both the server and client, and communicating between them using serialization over SOAP. It would have been obvious at the time the invention was made to a person of ordinary skill in the art to modify Rakib in view of Tso in view of Steidley with Sharma in order to provide an easily extensible interface that enables a flexible command structure.

Regarding claims 11, 26, Rakib in view of Tso in view of Steidley teaches:

wherein said content delivery control unit is configured as to set a control instance

which executes processing control for content specified by the content identifier, and to execute the control for each content based on the control instance; ("The packets for the two different PIDs can be sent to different places." Rakib column 14 line 35)\

Rakib in view of Tso in view of Steidley does not disclose:

And is of a configuration to execute connection management based on a connection management table corresponding to an instance ID which is an identifier for each of said tuner control instance and said storage unit control instance, a connection ID which is a connection identifier between the server and client, and protocol information corresponding to the delivery content.

Sharma discloses such elements:

("References to the object and its serializer are passed as parameters to registerObject, which may generate a unique ID for the object and adds a SOAPSerializatoinState for the object to its internal map." Sharma column 32 line 15)

("When client 510 prepares to send data to server 510, such as when a remote call is made to a service endpoint 555 maintained by server 530 . . . may serialize a Java object" Sharma column 30 lines 5-10)

("The SOAPSerializationState for an object may store a unique ID assigned to that object and a reference to the serializer for the object" Sharma column 31 line 33)

A person of ordinary skill in the art at the time of invention would have modified Rakib in view of Tso in view of Steidley with Sharma but using Java objects on both the server and client, and communicating between them using serialization over SOAP. It would have been obvious at the time the invention was made to a person of ordinary

skill in the art to modify Rakib in view of Tso in view of Steidley with Sharma in order to provide an easily extensible interface that enables a flexible command structure.

Regarding claims 12, 27, Rakib in view of Tso in view of Steidley does not disclose: wherein said content delivery control unit is configured so as to receive a control request for delivery content according to a SOAP (Simple Object Access Control) protocol from a client, and execute content control based on the control request.

Sharma discloses such elements:

("The SOAPSerializationState for an object may store a unique ID assigned to that object and a reference to the serializer for the object" Sharma column 31 line 33)

A person of ordinary skill in the art at the time of invention would have modified Rakib in view of Tso in view of Steidley with Sharma but using Java objects on both the server and client, and communicating between them using serialization over SOAP. It would have been obvious at the time the invention was made to a person of ordinary skill in the art to modify Rakib in view of Tso in view of Steidley with Sharma in order to provide an easily extensible interface that enables a flexible command structure.

Claims 13, 14, 28, 29, 31, 32, are rejected under 35 U.S.C. 103(a) as being unpatentable over Rakib (US 6,970,127), in view of Sharma et al. (US 7,159,224), in view of Monin et al. (US 6,304,564).

With respect to claims 13, 28, 32, Rakib teaches: An information processing device as a client ("when the remote 30 issues commands to request services" Rakib

column 7 line 18) which requests data processing of tuner-received content as to a server ("Gateway 10 then tunes that that RF carrier, demodulates . . ." column 7 line 43).

Rakib does not teach: wherein said information processing device sends, to said server, first protocol information including a tuner identifying function ID as the tuner identifying information and second protocol information including a data storage unit identifying function ID as the data storage unit identifying information, within the protocol information to be included in the content information received from said server;

And is configured so as to execute sending processing of a control request as to each control instance wherein the tuner control instance ID and the storage unit control instance ID to be received from said server is acquired, and said control instance ID is specified.

Sharma discloses: wherein said information processing device sends, to said server ("When client 510 prepares to send data to server 510, such as when a remote call is made to a service endpoint 555 maintained by server 530 . . . may serialize a Java object" Sharma column 30 lines 5-10), first protocol information including a tuner identifying function ID as the tuner identifying information and second protocol information including a data storage unit identifying function ID as the data storage unit identifying information, within the protocol information to be included in the content information received from said server; ("The SOAPSerializationState for an object may store a unique ID assigned to that object and a reference to the serializer for the object" Sharma column 31 line 33)

A person of ordinary skill in the art at the time of invention would have modified Rakib with Sharma by using Java objects on both the server and client, and communicating between them using serialization over SOAP. It would have been obvious at the time the invention was made to a person of ordinary skill in the art to modify Rakib in view of Sharma in order to provide an easily extensible interface that enables a flexible command structure.

Furthermore, Rakib in view of Sharma does not disclose: And is configured so as to execute sending processing of a control request as to each control instance wherein the tuner control instance ID and the storage unit control instance ID to be received from said server is acquired, and said control instance ID is specified.

Monin discloses such features: And is configured so as to execute sending processing of a control request as to each control instance ("Refering to FIG. 5, there is shown an exemplary flowchart 500 illustrating the sequence of steps in determining a server process reference label associated with a destination component address" Monin column 9 line 7) wherein the tuner control instance ID and the storage unit control instance ID to be received from said server is acquired, and said control instance ID is specified. ("Upon such a determination, some indication of such server process reference label is returned to the source node in step 570" Monin column 8 line 30). A person of ordinary skill in the art would have combined Rakib in view of Sharma with Monin by including the setup procedure of Monin in order to determine a server process mapping. It would have been obvious at the time the invention was made to a person of

ordinary skill in the art to combine Rakib in view of Sharma with Monin in order to allow for the addressing of components on a server system.

Regarding claim 14, 29, Rakib teaches: wherein said information processing device is configured so as to perform setting requests of the recording source content identifier as to said tuner control instance, and of the recording target content identifier as to said storage unit control instance, and also executes processing for notifying said recording source content identifier as to said storage unit control instance. ("The packets for the two different PIDs can be sent to different places." Rakib column 14 line 35) ("record a program identified by a second PID on hard disk 114" Rakib column 14 line 40)

With respect to claim 31, Rakib teaches: A computer program for executing processing of content received from a tuner, said program comprising:

A step for setting a recording source content identifier as to the tuner control instance which executes delivery processing control as to the client of the content received from said tuner; ("Operating system 116 cooperates with the remote control 100 to receive commands to implement TIVO-like functions" Rakib column 12 line 1) ("Gateway 10 then tunes that that RF carrier, demodulates . . ." column 7 line 43) ("Receiver 106 has the ability to tune and demultiplex two separate logical channels simultaneously in some embodiments. Typically this will be done by filtering out all MPEG packets having two separate program descriptors (PID)" Rakib column 14 line 30)

A step for setting a recording target content identifier as to the storage unit control instance which executes the recording processing control as to said content storage unit of the content received from said tuner; ("record a program identified by a second PID on hard disk 114" Rakib column 14 line 40)

A control step for executing tuner control or storage unit control from the tuner control instance or the storage unit control instance, based on said identifying information. ("Operating system 116 cooperates with the remote control 100 to receive commands to implement TIVO-like functions" Rakib column 12 line 1) ("Gateway 10 has an RF or infrared transceiver 32 therein to send and receive data to/from remote 30" Rakib column 7 line 13)

Rakib does not teach: A control request receiving step for receiving a control request which has identifying information of the tuner control instance or the storage unit control instance from the client.

Sharma discloses such elements: ("When client 510 prepares to send data to server 510, such as when a remote call is made to a service endpoint 555 maintained by server 530 . . . may serialize a Java object" Sharma column 30 lines 5-10) ("The SOAPSerializationState for an object may store a unique ID assigned to that object and a reference to the serializer for the object" Sharma column 31 line 33)

A person of ordinary skill in the art at the time of invention would have modified Rakib with Sharma but using Java objects on both the server and client, and communicating between them using serialization over SOAP. It would have been obvious at the time the invention was made to a person of ordinary skill in the art to

modify Rakib in view of Sharma in order to provide an easily extensible interface that enables a flexible command structure.

Claims 15, 30, are rejected under 35 U.S.C. 103(a) as being unpatentable over Rakib (US 6,970,127), in view of Sharma et al. (US 7,159,224), in view of Monin et al. (US 6,304,564), in view of Tso et al. (US 6,421,733).

Regarding claim 15, Rakib in view of Sharma in view of Monin does not teach: wherein said recording source content identifier is a channel list URL which is set as identifying information of a channel list including at least multiple channels within the receiving channels of said tuner;

And wherein said recording target content identifier is a content storage object URL which is set as an identifier of a content storage object corresponding to a content storage region which is set in said content storage unit.

Tso teaches such elements: "GetObject(URL . . . PutObject(URL . . . " (Tso column 5 lines 50-60). A person of ordinary skill in the art at the time of invention would have modified Rakib in view of Sharma in view of Monin with Tso by including Tso's caching interface in the disk storage means of Rakib. It would have been obvious at the time the invention was made to a person of ordinary skill in the art to modify Rakib with a cache interface in order to allow storage and retrieval of programs in a TIVO type device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Chao whose telephone number is (571)270-5657. The examiner can normally be reached on 8-4 Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Caldwell can be reached on (571)272-3868. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. C./
Examiner, Art Unit 2442

/Andrew Caldwell/
Supervisory Patent Examiner, Art Unit 2442